An Essay
on the
Nature and Treatment of Fractures
Respectfully Submitted
To the Faculty
Of the
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Feby 1st 1858.

Nature and treatment of Fractures.

When we look around our world and see the vast number of the human race that have been rendered cripples by the mal-treatment of fractures. it brings to our minds the great importance of the surgeon making himself acquainted with this branch of his profession so that he may remedy this great evil. And by so doing he will not only be of service to his fellow beings but he will benefit his own self. For who would give business to the man who has once made a gross blunder whereby he has needlessly rendered his patient

a cripple during the rest of his days on earth. & And how exceedingly annoying it must be to the practitioner ever after to look upon the person upon whom he has caused such a deformity. Nature has very wisely devised means so that with human aid fractured bones may be firmly and permanently united. And it devolves upon the surgeon to assist her in this great work. As the treatment of fractures is one of the most common duties of the surgeon and one that he is liable to be called

upon to perform without a moments preparation it is of the utmost importance that he should make himself thoroughly acquainted with every thing that pertains to their nature and treatment. The first thing to be taken into consideration in this branch of surgery is the manner in which the fracture is occasioned. Fractures are the result (either directly or indirectly) of some external violence. Those caused by direct violence are as a general thing much more serious than those occasioned by indirect force as the soft parts are very liable

to be greatly injured as in the case of a gunshot wound or the crushing of a limb by a wheel. By direct violence the bones are snapped as it were between a resisting substance on one side and the weight of the body on the other as for example a person may jump from a high stand and alight on his feet thus causing a fracture of the femur The long bones are the most liable to this kind of fracture and are generally broken at their most convex portion Violent muscular action is the frequent cause of fracture

as in the patella or the accromion process. The predisposing causes of fractures are numerous. Some bones are extremely liable for the reason that they are used for support - as the bones of the arm and fore arm. The shape of a bone predisposes it to fracture thus the long slender bone is more liable to fracture than the short - thick one. certain parts are more liable as where powerfull muscles are attached or where they are near exposed situations. Age has much to do with the frequency of fractures Thus old or young persons are more liable than

the middle aged for the reason that in young persons the bones are not completely ossified and will not bear much violence and in old people the bones contain a big amount of animal matter which consequently renders them more brittle. Bones may be weakened by certain diseases such as syphilis or mercurial diseases.

Males are more liable to fractures than females they being more exposed to danger. Fractures are divided into two great classes. Simple and Compound. The simple fracture is where the bone is merely broken.

The compound is when the soft parts are ruptured so that the broken bone has a communication with the external surface. The directions of fractures are three in number transverse. oblique and longitudinal. The transverse is generally caused by direct violence. The oblique is caused by indirect violence the breaking force being applied to the extremities and not the shaft of the bone. The longitudinal may arise from a variety of causes. The signs of fracture are as follows.
1st. Change of shape of the part.

2nd " unnatural mobility. and 3rd "
Cripitus. The change of shape
may be caused by the force
that produced the fracture
or what is more generally
the case the contraction of
muscles that are attached to
the broken fragments.
Preter natural mobility cannot
exist without fracture but
you may have fracture without
mobility as when the two
ends of bone are wedged to-
gether. Crepitus is the gra-
ting together of the fragments
of bone. It may be either
hard or soft. this is certain-
ly one of the most valuable

signs to diagnose fractures.
but it cannot always be obtained
as when the fracture is trans-
verse and the broken bones
are drawn past each other
or the bones may be impac-
ted. When the practicioner
comes in contact with such
cases he should spare no
pains. but make a thor-
ough examination of the
part injured. although it
may give his patient much
pain yet it is doing him a
great kindness.
In the treatment of fractures
the great aim of the surgeon
should be not only to

obtain a sound and strong limb but one that presents as little deformity as possible. The question at once arises how is this to be accomplished? The broken bone must be brought in as direct apposition as possible and the recurrence of displacement prevented. and the local and constitutional condition of the patient properly attended to. When the surgeon is called to treat a fracture if it be one that will require the patient to be kept in bed for any length of time

he must see that the bed is suitably prepared by being made hard flat and firm. The last is the hair mattress. He next proceeds to the examination of the injury. After he has satisfied himself with respect to the fracture the part should be placed in an easy position until any apparatus that may be required has been prepared. When all is ready he must proceed with the reduction this should be done as soon as possible for after a short space of time the muscles

become shortned and rigid
thus for rendering much
more force necessary to ac-
complish the same end.
The limb should be in
that position that the bulk
of muscle will be relaxed
by this means a great deal
of force and pain to the
patient will be avoided.
After the reduction means
must be employed to pre-
vent the recurrence of
displacement. This is ac-
complished by means of
a variety of bandages and
splints. It would be useless
for me to enumerate all the

different varieties of splints as they are as numerous as the people that have used them. The dressings of a fracture should be applied quite loosely at first - or the limb may swell and produce strangulation.
Very complicated apparatuses should be avoided as much as possible for they are not only liable to get out of repair and position, but they are very cumbersome to the patient. The surgeon can manufacture from wood. paste-board and gutta-percha all that is

necessary in the treatment of any fracture. and generally under the most unfavorable circumstances. Very good success has followed the use of the starch bandage. Numerous accidents are liable to occur during the treatment of fractures which the surgeon should understand. They are of two varieties General and Special of the first variety the most common are. Tetanus. Traumatic delirium and erysipelas. Among the special are abscess. Oedema gangrene and spasm of the

muscles of the limb. In order to prevent these conditions the general health of the patient must be carefully attended to the room being well ventilated nourishing diet allowed and long confinement to bed avoided by the use of the starch bandage. But if these conditions should occur they must be combated with the proper remedies.

Much more could be written upon this important subject but the want of time compels me to close.